

# FLASH

Factual Lines About Submarine Hazards

*Submarine Division of the Naval Safety Center*

## January – March 2013



Fingers meet paper shredder. Individual failed to secure power prior to attempting to remove stuck papers.

### Route for Safety's Sake

CO \_\_\_\_ XO \_\_\_\_ NAV \_\_\_\_ ENG \_\_\_\_ CSO \_\_\_\_ SUPPO \_\_\_\_ COB \_\_\_\_ DCA \_\_\_\_ Safety Officer \_\_\_\_  
EDMC \_\_\_\_ MDR \_\_\_\_ 3MC \_\_\_\_ CPO Quarters \_\_\_\_ Ship's DCPO \_\_\_\_ 1<sup>st</sup> LT \_\_\_\_

We at the Naval Safety Center look forward to your questions and feedback.

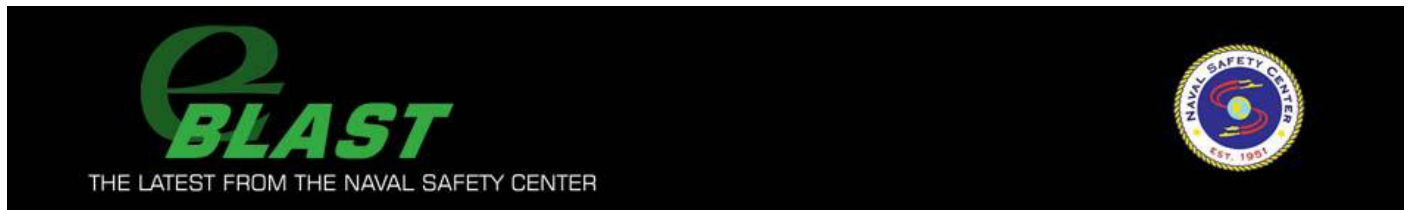
In the spirit of "**ASK THE FLASH**," we have opened the FLASH up for write-in articles and cartoons. You can find the Naval Safety Center classified web page at <https://www.csp.navy.smil.mil/NSC-SUB> and the Naval Safety Center videos on You Tube at <http://www.youtube.com/user/dsteber1849>

### Warnings, Cautions and Notes

The Flash is a newsletter that provides safety-related information to the fleet. This information is a summary of research from selected mishaps and surveys done throughout the force. The data is provided to assist you in **your** mishap prevention program and give advance notice of other safety-related information.

*This newsletter is NOT authoritative.*

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February 2013

To view the newest E Blast posting, visit:

[https://www.public.portal.navy.mil/navsafecen/Documents/media/e-blast/E-Blast\\_Feb2013.pdf](https://www.public.portal.navy.mil/navsafecen/Documents/media/e-blast/E-Blast_Feb2013.pdf)

## ***WHAT IS RISK MANAGEMENT?***

***LT Ray***

Is risk management an annual training burden (aka "paper dragon") or fully ingrained in our culture? Most Sailors have heard of risk management (RM) and most have an idea of how RM works, but can't we as a professional organization do better than that? Different instructions govern different types risk management. Those instructions all look similar and have similar components. When applied to the mission correctly, they produce the same result: Meeting the mission, repeatedly, in a mishap free manor. Safety is a bi-product of effective risk management.

OPNAVINST 5100.39, Operational Risk Management (ORM), has been around for about 20 years. The Naval Safety Center (NSC) is the ORM model manager. One of the many responsibilities we have is to "manage organizational and individual risk Navywide". Risk management should be applied to all tasks, 24/7, 365; at home and at work; with friends, family, and co-workers. But, do we routinely and effectively employ RM? Do we consistently: Identify hazards, assign a risk assessment code based on severity and probability, prioritize these hazards, implement controls, supervise and evaluate the evolution, and repeat. The controls you chose to use is limited by your resources, your technical limitations, and your imagination. NSC survey teams will ask your ORM program managers to provide documentation (filled out OPNAV 3502/1, 3502/2, 3502/3) (similar forms available on the NSC web site) that your command utilizes ORM fundamentals properly.

Risk management principles are also applied by the acquisition community who design, build; and provide training and logistics support for the ships, aircraft, and other weapons systems we operate. Standard Practice for System Safety (MIL-STD 882 Rev E), Naval SYSCOM Risk Management Policy (various instruction numbers apply from the 5000 series), and Requirements for NAVSEASYSKOM Safety Program for Ships and Shipboard Systems (NAVSEAINST 5100.12) are a few of the important RM policies that describe the SYSCOMs methods for managing safety risks associated with weapons systems and equipment. Just as fleet operators use the OPNAV ORM policy as a guide to manage risks in their daily operations and personal lives, the acquisition community and systems commands use these system safety processes to facilitate mitigation of system induced hazards without incurring excessive costs or unreasonably limiting performance of the weapon systems. When fleet operators and maintainers identify system related hazards they have a responsibility to communicate the hazard and recommended corrective actions to the type commander and the SYSCOMs so that they can assess the risk to the force; and decide whether those risks need to be mitigated fleetwide thru system design changes, or improved training and procedures. This reporting can be done in many ways, including mishap and hazard reports, Quality Deficiency Reports, and Planned Maintenance System (PMS) Feedback reports, to name just a few. If you suspect you have an unmitigated risk associated with a system or component used by other fleet units, at a minimum, report it to your TYCOM, NAVSAFECEN, the responsible SYSCOM, and In-Service Engineering Agent (ISEA) via a hazard report and any of the other feedback channels at your disposal. Giving the supporting agencies a heads up on system related hazards gives those organizations that support our warfighters the opportunity to proactively mitigate risks before the hazard results in a mishap.

Operating our complex and high tech equipment for the purpose of war fighting is not a safe evolution. We meet the mission successfully and repeatedly due to the time proven, sound fundamentals of risk management. Please contact me or the Naval Safety Center staff for training, resources, formal school inquiries, or any other risk management issue. Additional information is available at <http://safetycenter.navy.mil/> under ORM.

## *The Risk of Diving*

### *LT Seaward*

One of the most dangerous jobs onboard submarines is open water SCUBA diving. You might ask yourself why that is since the submarine does so many evolutions that are dangerous. One of the main reasons is that when you are at depth and working there is no direct backup if things go wrong. You are absolutely reliant on your equipment, how well trained you are and how proficient you are. If SCUBA divers become complacent and do not maintain their level of knowledge and proficiency in all aspects of conducting a safe dive there can be many unintended and negative outcomes.

Submarine SCUBA divers face many unique challenges and I will talk about a few:

Diving as a collateral duty. There are many day to day activities that conflict with diving. Some of these activities are ship control trainers, attack centers, daily maintenance, etc. With all of these primary duties requiring action, collateral duty SCUBA divers do not have the opportunity to dive as much as someone whose primary job is diving, leading to a lower overall proficiency level. This lower proficiency level does not automatically mean unsafe practices or lack the ability to perform the task, just that the divers might not have the experience gained by "on the job training" and working at different diving commands (salvage commands compared to underwater ships husbandry commands).

Watchstanding and maintenance. These two roles make up a large portion of what the ship is involved in while it sits next to the pier. When one watchstander is pulled away from duty to dive it affects about five other people who are on the watchbill or need to stand in for the diver.

Dive site setup and gear stowage. Dive gear is stored in many different places some of which are difficult and time consuming to get to. This leads to longer setup and breakdown times for dive sites. This also makes the proficiency dives harder to fit into a normal workday due to the time commitment and the affect that hanging divers tags has on the ship.

Lack of planning, equipment failure, operator error, and other factors all contribute to diving being an extremely dangerous evolution. As recent SCUBA fatalities have shown SCUBA diving is very dangerous and the risk of death is ever present. Even routine evolutions such as hull searches, retrieving dropped equipment, or just performing proficiency dives. Commands need to be cognizant of the experience and proficiency level of their divers and dive supervisors. It is not a bad practice to get local divers, who do this for a living, involved to help out if the divers are not proficient enough.

*Is Our OPTEMPO Driving Us to Fall Asleep at the Wheel?*  
*EMCM(SW/AW) Valdepeña*

**Fatigue** (also called **exhaustion, tiredness, lethargy, languidness, languor, lassitude, and listlessness**) is a subjective feeling of tiredness which is distinct from weakness, and has a gradual onset. Unlike weakness, fatigue can be alleviated by periods of rest. The onset of mental fatigue during any cognitive activity is gradual, and depends upon an individual's cognitive ability, and also upon other factors, such as sleep deprivation and overall health.

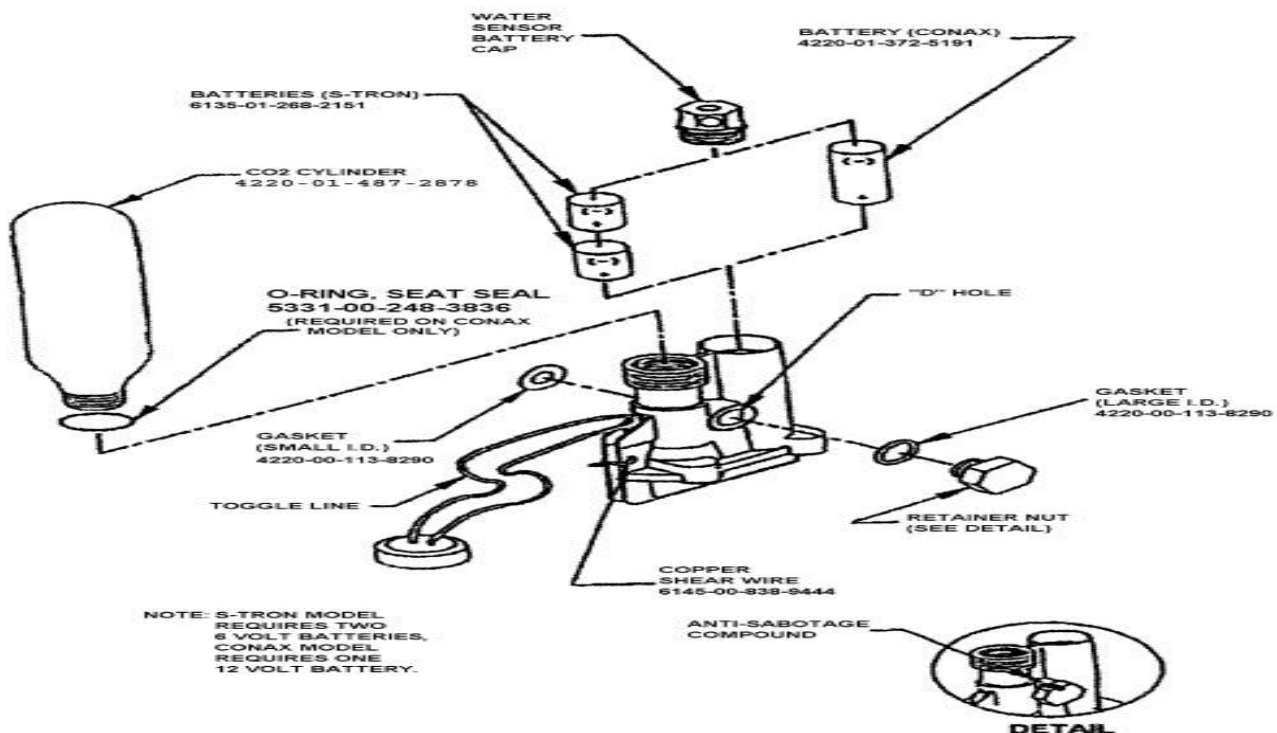
How many times have you stood a watch or conducted an evolution and have been completely drained halfway through your watch, counting the minutes until you were relieved? How aware of your surroundings do you think you were at that time? As leaders, we manage our Sailors, both personally and professionally. We counsel our Sailors about the dangers of drinking and driving. We counsel them on getting plenty of rest prior to taking a long trip. Are we taking the time to ensure our Sailors are getting adequate rest prior to taking the watch, operating multi-million dollar pieces of equipment or navigating ships?

A watchstander that averages four to five hours of excellent sleep in a 24 hour period for three consecutive days would have an effectiveness of less than 70% by the end of the third day. We all know that excellent sleep is hard to come by while at sea. This also takes into account that the Sailor has the same sleep start time, each night of midnight. If the Sailor does not sleep at the same time each night and/or the sleep is of a lower quality, the watchstander's effectiveness continues to decline. Sleep deprivation can have a similar effect on attentiveness as consuming alcohol. By the end of the third day, the same watchstander would have a similar mental awareness of someone that had a blood alcohol concentration of more than 0.08%. This is legally drunk! We would not let them get behind the wheel of a car. If we thought a watchstander was drunk, we would not let them take the watch! If we knew their mental awareness was diminished, I am sure they would not be allowed to take the watch.

With the enhanced operational tempo (OPTEMPO) of the military, adequate sleep is a valuable and sometimes rare commodity. There is a culture to tough it out, work long hours, and then take the watch, as to not put a burden on anyone else. This behavior can actually put others at risk. Are your supervisors taking the time to verify Sailors are getting adequate rest and balancing workloads, watchstanding, and time to rest? Verifying adequate time to rest should be part of every supervisor's operational risk management plan, ensuring the watchbill is written and the work is scheduled. We charge our personnel with significant responsibilities and part of that responsibility is getting the appropriate rest. Don't just assume that your personnel will tell you when they are tired or have worked too long, be proactive and take action ahead of time before the mistakes are made due to fatigue.

## **DECK/COMBAT SYSTEMS ETC(SS) Dawson**

During recent surveys, I have noticed a trend in improper PMS accomplishment of life vests (83 percent of submarines surveyed in FY2012). Stern's inherently buoyant life vest MK-1 commercial inflators are required to be replaced with the new CONAX inflator based on NAVSEASYS CON Message 250939Z FEB 08. NAVAMMOLOGCEN MECHANICSBURG PA Message DTG 141940Z FEB 11 requires the black battery cap be replaced by a beige/gray cap that has more torque in the spring that holds the battery. The new sensor caps must be requested by email to [sandra.yandell@navy.mil](mailto:sandra.yandell@navy.mil). Please provide quantity, complete mailing address and POC for delivery. When putting on the anti-sabotage compound it should be applied to the top of the nut IAW the MRC. When you receive a new vest you must conduct MIP Series: 5832 MRC: 12 9PDC Y Periodicity: SU-1, this should include the replacement of the shear wire (when they are shipped to the boats they use a heavier strength shear wire than the MRC allows). Do not forget to attach a label to the CONAX inflator for the battery shelf life.



## **FTC/SS Macon**

Howdy, howdy! FTC Macon here! A little bit about me: I am a plankowner aboard the USS California. She was the forth boat that I've had the privilege of serving aboard. I took her from an open and empty hull to an awesome Virginia-class war-fighting machine. Her crew, FT division particularly, did an outstanding job everyday to get the job done as safe as possible. Be proud of your accomplishments, guys! I am. I will be the submarine combat systems and deck analyst and look forward to working with all submarine crews to help prevent mishaps. My goal is to help prepare you, from a safety and ORM standpoint, for the successful execution and completion of all your demanding missions. I am here to assist with any questions or problems that you might have, so please feel free to contact me at any time. Please see page 11 for the Submarine Division contact information.



## *Electrical*

UNCLASSIFIED//  
RTTUZYUW RUOIAAZ0142 0941933-UUUU--RHMCSUU.  
ZNR UUUUU  
R 051140Z APR 13 ZYB  
FM COMNAVSAFECEN NORFOLK VA  
TO ALSAFE  
BT  
UNCLAS  
ALSAFE 021/13  
SECINFO/U/-//  
MSGID/GENADMIN/COMNAVSAFECEN/20/MAR//  
SUBJ/FLUKE PRODUCT SAFETY ALERT AND RECALL//  
POC/PERFETTO, JOSEPH/CIV/UNIT:COMNAVSAFECEN/NAME:NORFOLK  
/TEL:757-444-3520 X7264/TEL:DSN 564-3520 X7264 /EMAIL:JOSEPH.PERFETTO@NAVY.MIL//  
GENTEXT/REMARKS/1. IN COOPERATION WITH THE CONSUMER PRODUCTS SAFETY COMMISSION, FLUKE HAS  
ISSUED RECALLS FOR FIVE OF ITS PRODUCTS.  
2. PER THE FLUKE ANNOUNCEMENT CONSUMERS SHOULD IMMEDIATELY STOP USING THE DEVICES LISTED  
AND GO TO [HTTP://WWW.FLUKE.COM/FLUKE/USEN/SUPPORT/SAFETY/](http://www.fluke.com/fluke/usen/support/safety/) FOR DETAILS ABOUT THE ITEMS  
INVOLVED AND THE SPECIFIC FOLLOW-UP ACTIONS FOR EACH.  
3. THE PRODUCTS (FIVE TOTAL):  
A. FLUKE 373, 374, 375, AND 376 DIGITAL CLAMP METERS  
B. FLUKE 190 SCOPEMETER  
C. FLUKE T2 ELECTRICAL TESTER  
D. FLUKE 333, 334, 335, 336, AND 337 DIGITAL CLAMP METERS  
E. FLUKE 1AC-1 VOLTALERT VOLTAGE TESTER  
4. HAZARD IS EXPOSURE TO ELECTRICAL SHOCK, ARC FLASH AND/OR ELECTROCUTION DEPENDING UPON  
THE EQUIPMENT AND VOLTAGE INVOLVED. THE VOLTAGE DISPLAYED BY EACH OF THESE DEVICES MAY BE  
LESS THAN THE VOLTAGE IN THE ITEM BEING EVALUATED. IN SOME CASES, ZERO VOLTS WILL BE  
DISPLAYED WHEN A VOLTAGE IS PRESENT.  
5. ACTION: PERSONNEL USING THESE FLUKE PRODUCTS SHOULD STOP USING THEM IMMEDIATELY AND TAKE  
FOLLOW-UP ACTIONS AS PRESCRIBED BY FLUKE.  
6. ADDITIONAL INFORMATION IS AVAILABLE FROM THE FLUKE WEBSITE:  
[HTTP://WWW.FLUKE.COM/FLUKE/USEN/SUPPORT/SAFETY/](http://www.fluke.com/fluke/usen/support/safety/)  
BT  
#0142

### FLUKE METERS SUBJECT TO RECALL:



Fluke T-2



Fluke 373/374/375/376



Fluke 190 Scopemeter



Fluke 1AC-1

## Damage Control Readiness

### *MMCS(SS) Sisk*

Damage control gear has a life cycle like all other gear operated on a daily basis. Basic PMS is required to maintain the material condition in a ready state for emergency use. Attention to detail is necessary to ensure the readiness of damage control gear. Common mistakes that are found during submarine surveys are related to attention to detail.

IAW MIP 5519/016 MRC M-1R, all SCBA face pieces are required to have a voice amplifier attached. The requirement also applies to the SCBA stowed in the vicinity of the aft steam ensemble. Each SCBA face piece is required to have a fire fighter hood (single hood - gold in color) with the stock number of 8415-01-462-7670, AEL 2-930094085. Submarines requiring replacement hoods will be required to open purchase from Majestic Fire Apparel, Inc. Company info: Majestic Fire Apparel, Inc.; P.O. Box 248, Leighton, PA 18235-0248, 610-377-6273, Style No. PAC IX. Currently SA-4668D is in progress for 688 class submarines, which replaces current 30-minute SCBA bottles with new 45-minute SCBA bottles with clear protective sleeves installed (APL 99A010026), replaces current locker bottle brackets and repairs broken lockers.

IAW MIP 6641/103 MRC Q-1R, Note 5, all steam protective ensembles are required to have (1) fire fighting ensemble (FFE)/ fire protective gear (FFG) stowed with each steam protective ensemble and only used with the ensemble itself and is part of the ensemble inventory. Dedicated FFEs/FFGs for the steam protective ensembles are not to be used for any other purpose. SSN 688 and 774 class submarines are required to have two tactical steam protective ensembles forward and one tactical steam protective ensemble aft. SSN 21 class submarines are required to have two tactical steam protective ensembles forward and two tactical steam protective ensembles aft. SSBN/SSGN 726 class submarines are required to have three tactical steam protective ensembles forward and one tactical steam protective ensemble aft. All submarines are required to have two training steam protective ensembles that are positively identified on back with large red "X" and stowed in a container/locker with door/top painted yellow or in bag with top of bag yellow in color and clearly labeled "FOR TRAINING PURPOSES ONLY."

If you have any questions about these items or ideas of items to submit at the next conference, feel free to call or e-mail me using the contact information listed on the last page of the FLASH.

## Riding Safely per the Instruction

### *HMC(SS) Harris*

With the weather warming up, it is time for all fair weather motorcycle riders to get ready to hit the roads. We have already had five of our shipmates and six of our Marine brothers die while riding so far this fiscal year. With the upcoming riding season, it is imperative that commands stress the importance of safe riding while meeting the requirements of the Navy Traffic Safety Program, OPNAVINST 5100.12J, released on 26 June 2012.

Per the instruction, commanding officers shall ensure all personnel assigned to their command complete required traffic safety training during normal working hours and not be charged leave. Commands must also establish a motorcycle mentorship program to promote rider education, safety, and training that may be partnered mentorship programs with base, installation, near-by Navy or other service commands.



The command assigned motorcycle safety representative (MSR) is required to do the following:

- a. Obtain an ESAMS account and complete required ESAMS training.
- b. Identify personnel who operate or plan on operating a motorcycle, ensure 100 percent compliance with the training and PPE requirements and document completed motorcycle safety training in ESAMS.
- c. Maintain current information for riders in their command (whether riding on base or off-base) to include: an accurate listing of riders; type of motorcycle ridden or owned; state driver's license information; vehicle registration; DoD decal number (if applicable); proof of insurance; and rider training completion cards.
- d. Provide the commanding officer with a quarterly motorcycle safety training status report that includes the names of those individuals who are required but have not completed training, the reasons training was not completed with a projected training completion date, and a list of individuals who were scheduled for but failed to attend training.
- e. Attend the quarterly regional, base or installation traffic and motorcycle safety council meetings and serve as the command motorcycle mentorship program coordinator.

All riders must meet all applicable licensing, registration, insurance and training requirements before riding with non-compliance punishable under the UCMJ. Those who plan to purchase or operate a motorcycle (regardless of their intent to ride the motorcycle on or off-base) shall complete Level I training prior to operating these vehicles. Riders shall complete Level II training within 60 days of completion of Level I training or upon changing the type of motorcycle ridden. Level II or Level III refresher training is required every three years.

The three levels of motorcycle training are:

- a. **Level I.** Level I courses include: the Motorcycle Safety Foundation (MSF) BRC, any state approved curriculum intended to provide novice riders the skills and knowledge needed to obtain a drivers license motorcycle endorsement, any course approved by any of the other services, or any entry level rider training course approved by OPNAV N09F/COMNAVSAFECEN.
- b. **Level II.** These courses build upon the skills and knowledge that riders obtain in Level I courses. The MSRC and Advanced Rider Course are examples of Level II courses approved for sport bike riders. The Advanced Rider Course and BRC II are examples of Level II courses approved for non-sport bike riders.
- c. **Level III.** These courses improve the riders' skills and knowledge through a curriculum that includes practice maneuvers conducted at street or highways speeds, challenging cornering techniques and other realistic scenarios conducted in a controlled environment. Examples of Level III courses include: the California Superbike School, the Marine Corps' Advanced Motorcycle Operator Course, Total Control and American Super Camp.

Statistically, the majority of navy riders involved in motorcycle accidents are the ones that have not completed all of their required training. We have had

All Sailors who ride motorcycles (operators and passengers) at all times, on and off base, and all riders and passengers on any DON installation shall wear the following PPE while riding motorcycles:

a. **Head Protection.** A helmet meeting DOT FMVSS 218, United Nations Economic Commission for Europe Standard 22-05, British Standard 6658, or Snell Standard M2005 shall be worn and properly fastened under the chin. Fake or novelty helmets are prohibited.

b. **Eye Protection.** Protective eye devices designed for motorcycle operators (impact or shatter resistant safety glasses, goggles, wrap around glasses sealing the eye, or face shield properly attached to the helmet) shall be properly worn. A windshield, standard sunglasses or standard eye wear alone are not proper eye protection.

c. **Foot Protection.** Sturdy over the ankle footwear that affords protection for the feet and ankles shall be worn.

d. **Protective Clothing.** Riders and passengers shall wear a long sleeved shirt or jacket, long trousers, and full-fingered gloves or mittens designed for use on a motorcycle.

## Naval Safety Center Submarine Division Scheduled 3<sup>rd</sup> QTR FY13 Travel Plans

Guam: 23-30 Apr 13    Bangor, WA: 1 May - 3 May 13    Hawaii: 10-13 Jun 13

Commands needing submarine safety surveys scheduled during the 3<sup>rd</sup> and 4<sup>th</sup> QTR FY13:

USS ANNAPOLIS (SSN 760)	USS BOISE (SSN 764)	USS NEVADA (SSBN 733)
USS BUFFALO (SSN 715)	USS NEW HAMPSHIRE (SSN 778)	USS CALIFORNIA (SSN 781)
USS NEW MEXICO (SSN 779)	USS HELENA (SSN 725)	USS HARTFORD (SSN 768)
USS SAN JUAN (SSN 751)	USS JEFFERSON CITY (SSN 759)	USS SPRINGFIELD (SSN 761)
USS JIMMY CARTER (SSN 23)	USS VIRGINIA (SSN 774)	USS LOUISIANA (SSBN 743)
USS MARYLAND (SSBN 738)	USS PITTSBURGH (SSN 720)	USS PROVIDENCE (SSN 719)
USS NEBRASKA (SSBN 739)	USS LOUISVILLE (SSN 724)	USS COLUMBIA (SSN 771)

1. "Fessing Up." When people hide, ignore or downplay mishaps, they're helping make other people learn the hard way. More information regarding reporting mishaps requirements is available at [http://www.public.navy.mil/navsafecen/Documents/media/deckplate\\_dialogue/DD\\_Jan12\\_fessing\\_up.pdf](http://www.public.navy.mil/navsafecen/Documents/media/deckplate_dialogue/DD_Jan12_fessing_up.pdf)



2. The semi-annual publication for the surface, submarine, and dive communities is available on line at <http://www.public.navy.mil/navsafecen/Pages/media/sea-compass/Index.aspx>

<b><u>Effective COMNAVSAFECEN Submarine Safety Advisories</u></b>		
<b>2010</b>		
6-10	081904Z Dec 10	Asbestos Removal Protection
<b>2011</b>		
2-11	041532Z Mar 11	Heat Stress Meter Clarification
3-11	071634Z Mar 11	Heat Stress Survey Clarification
5-11	021648Z May 11	Reportable Mishap Clarification and Reporting
7-11	201437Z Oct 11	Safety Survey Requirement Change
9-11	181607Z Nov 11	Afloat Fall Protection
<b>2012</b>		
3-12	231505Z Aug 12	Reporting Afloat Mishaps
4-12	291342Z Aug 12	Replacement of HMUG with NSTM 670
<b>2013</b>		
1-13	081702Z Jan 13	Effective COMNAVSAFECEN Afloat Safety Advisories for Surface Ships and Submarines
2-13	101957Z Jan 13	Electrical Safety During PMS

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<https://www.csp.navy.smil.mil/NSC-SUB/>

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